AMENDMENTS TO THE CLAIMS

CLAIMS:

1. (Currently Amended) Substantially purified Brassinosteroid 1 plasma membrane receptor (BIN1) ~~BIN1~~ polypeptide having the amino acid sequence of SEQ ID NO: 2, or a variant thereof, wherein said polypeptide has receptor kinase activity and is a receptor for brassinosterioids.

2. (Original) The polypeptide of Claim 1, wherein said polypeptide has a molecular weight of approximately 130 kD, as determined by SDS-PAGE.

3. (Currently Amended) The BIN1 polypeptide of Claim 1, wherein the amino acid sequence of said polypeptide~~protein~~ is substantially the same as the amino acid sequence set forth in SEQ ID NO: 2.

4. (Original) The BIN1 polypeptide of Claim 1, wherein the polypeptide comprises the amino acid sequence set forth in SEQ ID NO: 2.

5. (Cancelled)

6. (Currently Amended) The BIN1 polypeptide of Claim 1, wherein said receptor kinase activity is activated by ~~brassinoloide.~~ brassinolide.

7. (Currently Amended) The BIN1 polypeptide of Claim 1, wherein said polypeptide has a ~~brassinosteriod~~ brassinosteroid binding affinity of approximately K_d=7.4±0.9 nM to 10.8±3.2 nM.

8. (Original) The BIN1 polypeptide of Claim 1, wherein the Alanine at position 1031 is replaced by Threonine.

9. (Currently Amended) The BIN1 polypeptide of Claim 1, wherein the Threonine at position ~~740~~ 750 is replaced by an Isoleucine.

10. (Original) The BIN1 polypeptide of Claim 1, wherein said polypeptide is from *Arabidopsis thaliana*.

11. (Currently Amended) A substantially purified ~~peptide comprising approximately 70 amino acids of the~~ Brassinosteroid 1 plasma membrane receptor (BIN1) polypeptide comprising a fragment of the amino acid sequence of SEQ ID NO: 2 ~~extracellular domain~~, wherein said fragment~~peptide~~ binds to brassinosterioids.

12. (Currently Amended) The ~~peptide~~ fragment of Claim 11, wherein said ~~peptide~~ fragment has an amino acid sequence corresponding to about amino acid residues 588 to 649 of SEQ ID NO: 2.

13. (New) A genetically modified plant, comprising a polynucleotide that encodes a Brassinosteroid 1 plasma membrane receptor (BIN1) polypeptide having the amino acid sequence of SEQ ID NO: 2, or a variant thereof, wherein said polypeptide binds to brassinosteroids.

14. (New) The genetically modified plant of Claim 13, wherein said polynucleotide is operably associated with a FMV35S or a CaMV35S promoter.

15. (New) The genetically modified plant of Claim 13, wherein said polynucleotide is operably linked to a promoter that is inducible by pathogen infection.

16. (New) The genetically modified plant of Claim 13, wherein said plant is a monocotyledon.

17. (New) The genetically modified plant of Claim 13, wherein said plant is a dicotyledon.

18. (New) A genetically modified plant, comprising a polynucleotide that encodes a Brassinosteroid 1 plasma membrane receptor (BIN1) polypeptide comprising a fragment of the amino acid sequence of SEQ ID NO: 2, wherein said fragment binds to brassinosteroids.

19. (New) The genetically modified plant of Claim 18, wherein said polynucleotide is operably associated with a FMV35S or a CaMV35S promoter.

20. (New) The genetically modified plant of Claim 18, wherein said polynucleotide is operably linked to a promoter that is inducible by pathogen infection.

21. (New) The genetically modified plant of Claim 18, wherein said plant is a monocotyledon.

22. (New) The genetically modified plant of Claim 18, wherein said plant is a dicotyledon.